

REMARKS

After the foregoing amendment, claims 27-32 are pending in the application. In order to more particularly point out and distinctly claim the subject matter that Applicants regard as the invention, Applicants have canceled the original claims 1-26, replaced original claims 1, 16, 18, and 21, with new claims 27, 29, 30 and 31 and added new claims numbered 28 and 32. Applicants submit that no new matter has been added to the application by the Amendment.

Objection to the Abstract

The Examiner objected to the Abstract because the length of the Abstract exceeds 150 words. Applicants have replaced the Abstract with a new Abstract having a length less than 150 words. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to the Abstract.

The Present Invention

The invention relates to an object or information management method, and in particular, as described in claims 27, 29 and 31, a method for managing image data or an electronic clinical chart by a storage company entrusted by a medical institution with management of image data generated by a diagnostic instrument of the medical institution or an electronic clinical chart of a patient at the medical institution. See, for example, pages 46-54 of the specification and Figs. 1-3 of the application. A server of the storage company is connected to a terminal of a medical institution via the Internet, as described in claims 27, 29 and 31, and data can be exchanged between the server and the terminal via the Internet. See, for example, page 48, lines 5-16, and page 53, line 15 - page 54, line 15 of the specification and Figs. 2 and 3 of the application.

According to the management method of the invention described in claim 27, the image data or the electronic clinical chart is recorded on a, preferably portable, recording medium such as DVD in the medical institution, and then, the recording medium itself is stored in the warehouse in the storage company. At every retrieval of the image data or electronic clinical charts, the image data or electronic clinical chart is reproduced from the recording medium in the storage company, then sent to the terminal of the medical institution via the Internet and displayed on the screen. Preferably, the recording medium is a DVD, on which the

image data or electronic clinical chart is encrypted and recorded using the unique ID of the DVD, as described in claim 28. See, for example, page 66, line 19 - page 68, line 18; page 69, line 18 - page 70, line 18; page 71, line 12 – page 73, line 4 of the specification and Figs. 2 and 3 of the application.

The server of the storage company and the terminal of the medical institution are connected to each other via the Internet, and thereby, the storage company can easily increase the number of the institutions to be connected. However, in the data exchanges via the Internet, the transmission paths between the server and the terminals, and the electronic warehouse of the storage company are not physically separated from the external networks. Accordingly, the ensuring of the security against the data leaks is quite important. In particular, it is desirable that the electronic clinical charts are stored under the condition to be physically separated from the Internet, since the electronic clinical charts include the personal information of patients such as data identifying the individual patients.

According to the invention, as described in claim 27, the image data or the electronic clinical charts are stored in the warehouse in the storage company under conditions of being recorded on recording media, and reproduced from the recording media at every retrieval. If the recording media are DVDs, the image data or electronic clinical charts to be recorded allow encryption as described in claim 28, which reduces the possibility that the personal information is read from the DVD, in case the DVD is taken out in error. On the other hand, the use of the unique ID of the DVD for the encryption/decryption facilitates their processes. Thus, when the medical institution entrusts the external storage company with the management of the image data or electronic clinical charts, the security for them is ensured at a high level equal to or above the level of the case where the medical institution by itself manages the image data or electronic clinical charts, without significant impairment of the high convenience of the data converted into electronic formats.

According to the management method of the invention described in claim 29, the server of the storage company is further connected to the terminal of an analyzing person via the Internet. Preferably, there is more than one analyzing person with whom the communications are to be established. The medical institutions can request the external analyzing persons to

analyze the image data through the storage company. Note that, as described in claim 30, the storage company may present the list of a plurality of the analyzing persons to the medical institution, and then, make the medical institution select at least one analyzing person to whom the request is to be made. In particular, there may be more than one selected analyzing persons since the image data is easy to copy. See, for example, page 97, line 15 – page 100, line 26 of the specification, and Figs. 3 and 9 of the application.

In general, the analyzing persons do not belong to the medical institutions, and accordingly, it is important to ensure the security of the personal information of the patients. According to the invention, from the image data to be sent to the analyzing persons, the data identifying the individual patient are eliminated. See, for example, page 98, lines 9-21 of the specification. Therefore, the medical institutions can make the desired analyzing persons analyze the image data, while ensuring the high level of the security of the patient personal information. Such service of analyzing the image data, for example, allows remote clinics to easily and quickly receive support from urban hospitals via the Internet.

According to the management method of the invention described in claim 31, the server of the storage company is further connected to the terminal of the patient via the Internet. The patient can request an analyzing person separate from the medical institution that the patient has consulted, to analyze the patient's own image data through the storage company. Note that, as described in claim 32, the storage company may present the list of a plurality of the analyzing persons to the patient, and then, make the patient select at least one analyzing person to whom the request is to be made. In particular, there may be more than one selected analyzing persons. From the image data to be sent to the analyzing persons, the data identifying the individual patient are eliminated, as described in claim 31. Therefore, the patient can make the desired analyzing persons analyze the patient's own image data without disclosing the patient's own personal information. See, for example, page 101, line 1 - page 102, line 15 of the specification, and Figs. 3 and 9. Such service of analyzing the image data, for example, allows the patient to receive a second opinion via the Internet.

Rejection - 35 U.S.C. § 103

The Examiner rejected claims 1-4, 6, 10-21 and 23-24 under 35 U.S.C. §103(a) as being unpatentable over Cooke et al. (U.S. Patent No. 6,574,629) in view of Tanaka et al. (U.S. Patent No. 6,564,256). Applicants respectfully traverse the rejection.

Claim 1

Applicants have rewritten claim 1 as new claim 27. New claim 27 amends original claim 1 by reciting, *inter alia*, the steps of:

"...recording image data or electronic clinical chart onto a recording medium by the terminal of the medical institution, receiving said recording medium from said medical institution, and storing said recording medium in a warehouse of said storage company."

New claim 27 further amends claim 1 by reciting the step of:

"storing in a storage device of said storage company a customer identifier (ID) for identifying said medical institution and a deposit ID for identifying said recording medium, by associating said IDs with said recording medium.

assigning said customer and deposit IDs to said medical institution; [and]

receiving a retrieval request of said image data or electronic clinical chart from the terminal of said medical institution, said retrieval request containing therein said customer and deposit IDs".

Cooke et al. discloses a picture archiving and communication system (PACS) comprising core and non-core components. The core components include an archive station, a network gateway, a database server and a review station. The network gateway interfaces to the non-core components such as a radiology information system (RIS) and various imaging modalities, by which image data are captured. The image data are delivered through the network

gateway to the archive or review stations in the core. The database server manages access to the archived image data and stores information relating to the image data.

Tanaka discloses a relay server transferring medical image data, which delivers medical image data to the terminals in a Digital Imaging and Communications in Medicine (DICOM) standard communication system in response to requests from the terminals.

Serbinis et al. discloses an Internet-based document management system, which provides the users on the Internet with various document management services including document storage and retrieval, collaborative file sharing and workflow, document delivery and distribution. The document management system further bills the users according to their usage of the services. Electronic document data are exchanged between the document management system and the users via the Internet.

Cooke et al., Tanaka and Serbinis et al. disclose only electronic transfer of information between the sources of images and clinical charts (see Figs. 1 and 4 of Cooke et al. and Figs. 1-5 of Tanaka et al., Figs 1-10 of Serbinis et al.), and make no provision for receiving information from the sources of information on a recording medium. In contrast, new claim 27 recites recording image data or electronic clinical chart onto a recording medium by the terminal of the medical institution, receiving said recording medium from said medical institution, and storing said recording medium in a warehouse of said storage company.

Further, neither Cooke et al., Tanaka nor Serbinis et al. teach or suggest the security provisions recited in new claim 27. Cooke et al. merely teaches "standard security protocols" on the Web server (col.13, lines 35-38). Presumably, this means a conventional ID and password. Further, as described at col. 20, lines 19-53, Cooke et al. only provides limitations on the type of actions that a user can perform, i.e. which action buttons are active, and does not appear to provide any limits on accessing a particular patient file. Tanaka does not address security. Serbinis et al. allow a document to be in a pending, active, archived, canceled or deleted state. In the active state, authorized users have access to the document. Users may be individually registered for access by entering information in a user information table (col. 6, lines 34-46). However, Serbinis et al. does not appear to provide means for limiting access by specific users to specific documents.

In contrast to Cooke et al, Tanaka and Serbinis et al., claim 1 recites "storing in a storage

device of said storage company a customer identifier (ID) for identifying said medical institution and a deposit ID for identifying said recording medium, by associating said IDs with said recording medium. assigning said customer and deposit IDs to said medical institution; and receiving a retrieval request of said image data or electronic clinical chart from the terminal of said medical institution, said retrieval request containing therein said customer and deposit IDs". Thus, in the preferred embodiment, image data or an electronic clinical chart, recorded on a recorded medium is provided with a unique "deposit ID", and a customer ID that can be used to limit access to the image data and clinical chart to users identified by the medical institution.

Applicants respectfully submit that the combination of Cooke et al., Tanaka and Serbinis et al. does not make new claim 27 obvious. Accordingly, Applicants respectfully request reconsideration and withdrawal if the rejection to claim 1 as it may be applied to new claim 27.

In respect to claim 28, neither Cooke et al., Tanaka nor Serbinis et al. teach or suggest using a DVD as a recording medium, nor encrypting/decrypting the image data or the electronic clinical chart on the DVD, using the unique ID of the DVD as recited by new claim 28. Further, it is submitted that since new claim 27 has been shown to be allowable, new claim 28 dependent on claim 27 is allowable, at least by its dependency. Accordingly, for all the above reasons, Applicants respectfully request allowance of new claim 28.

Claim 16

Applicants have rewritten claim 16 as new claim 29. New claim 29 amends original claim 16 by reciting, *inter alia*, the steps of:

*An image data management method by a storage company
that comprises a server connected to terminals of a medical
institution and an analyzing person via the Internet, ...comprising
the steps of:*

*receiving said image data from said medical institution,
and storing said image data in an electronic warehouse of said
storage company;*

storing in a storage device of said storage company a

customer ID for identifying said medical institution, a deposit ID for identifying said image data, and data identifying a individual patient of said medical institution, by associating said IDs and the data identifying said individual patient with said image data;

receiving an analysis request of said image data from the terminal of said medical institution, said analysis request containing therein said customer and deposit IDs;

sending said image data to which said deposit ID is attached to the terminal of said analyzing person via the Internet;

receiving from said analyzing person a result of analysis of said image data sent to the terminal of said analyzing person, and storing said result of analysis in said electronic warehouse;

In connection with claim 16, the Examiner states that Cooke et al. does not explicitly teach a sending step for sending information to an analyzing person, a receiving step for receiving an analysis result transmitted from the analysis person. The Examiner further states however, that Tanaka teaches the aforementioned limitations at col. 9, lines 1-51. Applicants respectfully traverse the rejection.

Tanaka at col. 9, lines 1-51 teaches a process for routing a request from a terminal T1 for a desired piece of medical image data through a protocol conversion server to an archiver, which in turn, returns the piece of medical image data to the protocol converter. The protocol converter places the medical image data in a cache and at the same time transfers the image to terminal T1. If the image data is not on the archiver, the request is sent to a database which transfers the image to the protocol converter and then to terminal T1. If a request for the same image is made by another terminal, for instance T2, the image is sent to T2 from the cache.

Tanaka merely teaches a process for retrieving data back to the same terminal which requested the data. In contrast to the teachings of Tanaka, claim 29 recites receiving an analysis request from a terminal of the medical institution and sending said image data to the terminal of an analyzing person via the Internet.

In respect to claim 30, neither Cooke et al., Tanaka nor Serbinis et al. teach or suggest the process of forwarding an image provided by a first party to a third party for analysis,

based on a request from a first party. Accordingly, Applicants request reconsideration and withdrawal of the rejection of claim 16 as it may be applied to new claim 29.

Further, neither Cooke et al., Tanaka nor Serbinis et al. teach or suggest providing a list of analyzing persons to the terminal of the medical institution. Also, it is submitted that since new claim 29 has been shown to be allowable, new claim 30 dependent on claim 29 is allowable, at least by its dependency. Accordingly, for all the above reasons, Applicants respectfully request allowance of new claim 30.

Claim 21

Applicants have rewritten claim 21 as new claim 31. New claim 31 amends original claim 21 by reciting, *inter alia*, the steps of:

An image data management method by a storage company that comprises a server connected to terminals of a medical institution, a patient of the medical institution and an analyzing person via the Internet, ...comprising the steps of:

receiving said image data from said medical institution, and storing said image data in an electronic warehouse of said storage company;

storing in a storage device of said storage company a customer ID for identifying said medical institution, a deposit ID for identifying said image data, and data identifying an individual patient of said medical institution, by associating said IDs and the data identifying said individual patient with said image data;

receiving an analysis request of said image data from the terminal of said patient, said analysis request containing therein said deposit and patient IDs;

sending said image data to which said deposit ID is attached to the terminal of said analyzing person via the Internet;

receiving from said analyzing person a result of analysis of said image data sent to the terminal of said analyzing person, and

storing said result of analysis in said electronic warehouse;

Tanaka merely teaches a process for retrieving data back to the same terminal which requested the data. In contrast to the teachings of Tanaka, claim 31 recites receiving an image from an institution, an analysis request from a terminal of a patient and sending said image data to the terminal of an analyzing person via the Internet.

In respect to claim 32, neither Cooke et al., Tanaka nor Serbinis et al. teach or suggest the process of forwarding an image provided by a first party to a third party for analysis based on a request from a second party. Accordingly, Applicants request reconsideration and withdrawal of the rejection of claim 16 as it may be applied to new claim 29.

Further, neither Cooke et al., Tanaka nor Serbinis et al. teach or suggest providing a list of analyzing persons to the terminal of the patient. Also, it is submitted that since new claim 31 has been shown to be allowable, new claim 32 dependent on claim 31 is allowable, at least by its dependency. Accordingly, for all the above reasons, Applicants respectfully request allowance of new claim 32.

Conclusion

Insofar as the Examiner's objections and rejections have been fully addressed, the instant application, including new claims 27-32, is in condition for allowance and Notice of Allowability of claims 27-32 is therefore earnestly solicited.

Respectfully submitted,

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February 10, 2005
(Date)

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